

NOTES AND NEWS

NOTES ON THE GENUS *Burroughsia* (VERBENACEAE).—The genus *Burroughsia* was erected by Moldenke (Phytologia 1:411, 1940), based entirely on the presence of filament-like extensions of the connectives of the distal, abaxial pair of stamens (Fig. 1d–f). These appendages have many multicellular glands at the tip and are slightly exerted from the corolla tube throat. Their function is unknown, but their glandular tips may serve to attract insects to the corolla tube.

As erected, the genus consists of two species: *Burroughsia appendiculata* (Robins. & Greenm.) Moldenke (= *Lippia appendiculata* Robins. & Greenm.), of Chihuahua, Coahuila, eastern Durango, and northern San Luis Potosi and *B. fastigiata* (Brandegee) Moldenke (= *L. fastigiata* T. S. Brandegee), of Baja California del Sur. Except for the unique connective extensions the species fit well within the *Lippia*–*Aloysia* alliance. Both species are strigose, low subshrubs with opposite, small, ovate, lobed, deeply impressed-veined leaves; and both have flowers in short, cylindric, spike-like racemes borne on long axillary peduncles. The flowers have 2-lobed calyces, lavender to white, 5-lobed, zygomorphic corollas with broad, cylindric tubes, and didynamous stamens;

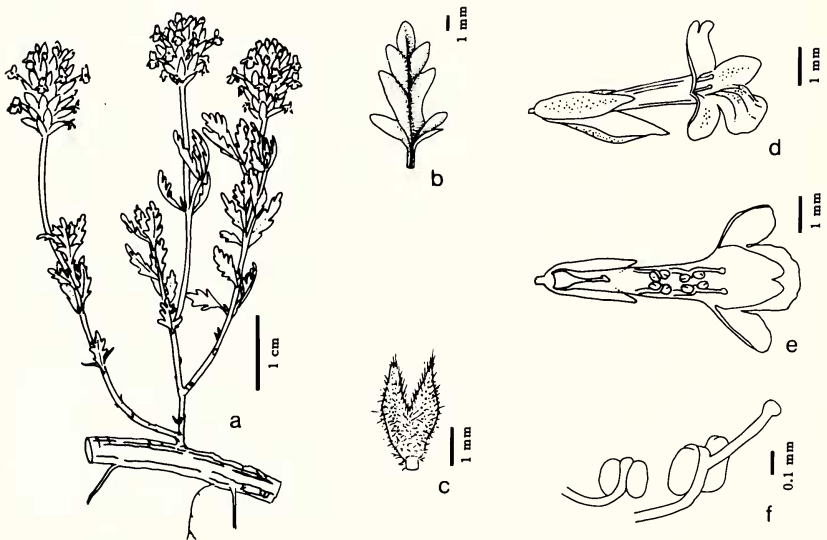


FIG. 1. *Lippia appendiculata* Robins. & Greenm.—a. Habit, showing section of thick, corky basal rhizome and erect ascending stems with long axillary peduncles and spicate inflorescences.—b. Leaf, showing lateral veins that extend to tooth sinuses. Veins are deeply impressed on upper surface.—c. Calyx is two-lobed, hirsute with spreading hairs and has many conspicuous orange glands.—d. Flower, lateral view, showing subtending bract, calyx (without vestiture), and corolla lobe orientation. Note exerted filament-like extensions of the distal anthers.—e. Diagrammatic “transparent” top view of flower, showing position of ovary, stamens, and corolla lobes.—f. Lateral view of stamens of a pre-anthesis flower showing the point of origin of the gland-tipped, filament-like extension of the distal anther connective. All from D. S. Correll and I. M. Johnston 21557 (LL). Magnifications as indicated. Drawing by Kathleen Cook.

the fruits are obovoid, 2-locular and dry. *Burroughsia appendiculata* is a relatively short plant, 1–1.5 dm tall, with pencil-thick, corky, horizontal rhizomes, rather strongly lobed leaves, uniform, antrorse, strigose stem vestiture accompanied by orange-glands and a distinct yellow corolla eye (Fig. 1). *Burroughsia fastigiata*, on the other hand, is usually a taller, twiggy plant, with smaller, more crowded, fewer-lobed leaves, and generally denser, more curved vestiture that is retrorse on stems, antrorse on leaves, with light yellowish to colorless glands and corollas that lack a yellow eye (see illustration in Wiggins' *Flora of Baja California*, p. 527, 1980). Several notes on the genus have been published by Moldenke (*Phytologia* 30:186–189, 1975; 40:423, 1978; 46:402, 1980) and these cite a number of additional references.

Routine study of the two species in connection with the Chihuahuan Desert flora, however, showed that *B. fastigiata* lacks the filament-like extensions on the distal anther connectives—the very character upon which the genus was erected. It is perhaps surprising that this error was not noticed for over 45 years, but the species is restricted to Baja California and is seldom collected. Moldenke (in Shreve and Wiggins, *Veget. Flora Sonoran Desert* 2:1246–1247, 1964) separated *Burroughsia* in the key on the basis of “anthers appendaged” but did not mention the structures in the species description, though it is noted in the generic description. Wiggins (*Fl. Baja California* 1980) separates the genus in the key on the basis of the anther appendages, but correctly omits the appendages in his accompanying species illustration.

Clearly *B. fastigiata* must be returned to the genus *Lippia*, as *L. fastigiata* T. S. Brandegee. One can argue phenetically to retain *Burroughsia* as a monotypic genus based on the character of a distinct filament-like connective extension. Cladistically, however, one sees that the genus is based entirely on a single, apomorphic feature and that its generic segregation cannot be supported. Within *Lippia*, the relationship of taxon *appendiculata* is not entirely clear. It shares a number of vegetative and floral characteristics with *Lippia fastigiata* and may indeed be most closely related to that taxon. In the Verbenaceae the presence of anther connective extensions is not restricted to *B. appendiculata*: similar, though less well defined extensions occur on the distal, abaxial filaments in some species of *Glandularia*. This, however, is hardly a synapomorphic character, because the genera differ in many other basic features.

At the present time I can see no reason to retain *Burroughsia* as a distinct genus based on a single apomorphic character and suggest the two species be returned to *Lippia* as *Lippia appendiculata* Robins. & Greenm., of the Chihuahuan Desert region, and *Lippia fastigiata* T. S. Brandegee of Baja California. Perhaps the time has come to look also into the validity of other generic segregates of *Lippia* such as *Aloysia* A. L. Juss., which is based on the presence of elongate inflorescences, and the low-growing *Phyla* Lour.—JAMES HENRICKSON, Department of Biology, California State University, Los Angeles 90032. (Received 19 Nov 1984; accepted 16 Mar 1985.)

NEW COMBINATIONS IN CALIFORNIA *Chamaesyce* (EUPHORBIACEAE).—As an additional installment of nomenclatural changes (Hickman, *Madroño* 31:249–252. 1984) for a revision of W. L. Jepson's *Manual* (Jepson, *Man. fl. pls. Calif.* 1925), four new combinations in the genus *Chamaesyce* are made for California taxa. Attention is also drawn to a nomenclatural change in the taxonomy of the genus from that of Wheeler (*Rhodora* 43:97–154, 168–286. 1941).

Euphorbia s.l. encompasses a group of plants ranging from small temperate annuals to ten-meter-tall tropical trees. Within this diverse collection, several natural assemblages can be recognized and are variously treated at generic, subgeneric or sectional